

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Daniel J. Glitto (Reg. No. 58996) on 29 April 2010.

1. (Currently Amended) A method comprising:

placing a message from a first virtual machine associated with a first virtual machine queue into a second virtual machine queue associated with a second virtual machine, wherein the message is associated with a page of a first address space of the first virtual machine;

mapping the page of the first address space to be associated with a second address space of the second virtual machine by updating a page table, via a processor;

and

determining whether a write instruction used to place the message in the second virtual machine queue involves an immediate virtual machine exit;

when the write instruction involves an immediate virtual machine exit, causing an immediate virtual machine exit associated with the first virtual machine such that a

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virtual machine monitor can process the message, and, when the write instruction does not involve an immediate virtual machine exit, processing the message in response to a natural virtual machine exit; and

causing the second virtual machine to process the message.

2. (Cancelled).

3. (Previously Presented) The method according to claim 1, further comprising dequeuing the second virtual machine queue.

4. (Previously Presented) The method according to claim 3, wherein dequeuing includes storing an address associated with the page into a local variable associated with the second virtual machine.

5. (Cancelled).

6. (Cancelled).

7. (Original) The method according to claim 1, further comprising:
conveying identification information associated with the first and second virtual machines between the first and second virtual machines via the first and second virtual machine queues.

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8. (Currently Amended) A computer system comprising:
at least one hardware processor; and
a computer readable memory comprising program instructions, executable by the
at least one processor, for:

a first virtual machine control structure associated with a first virtual machine, the
first virtual machine control structure having a first virtual machine queue adapted to
enqueue and dequeue a message;

a second virtual machine control structure associated with a second virtual
machine, the second virtual machine control structure having a second virtual machine
queue adapted to enqueue and dequeue a message, the second virtual machine queue
to receive a message from the first virtual machine, wherein the message is associated
with a page of a first address space of the first virtual machine; and

a virtual machine monitor to map the page of the first address space to be
associated with a second address space of the second virtual machine by updating a
page table, the virtual machine monitor to cause the second virtual machine to process
the message,

wherein the first virtual machine is to determine whether a write instruction used
to place the message into the second virtual machine queue involves an immediate
virtual machine exit, and

wherein the first virtual machine undergoes an immediate VM exit in response to
determining that the write instruction involves an immediate exit, and wherein the virtual

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machine monitor processes the message in response to a natural exit when the write instruction does not involve an immediate exit.

9. (Cancelled)

10. (Previously Presented) The computer system according to claim 8, wherein the first virtual machine is to receive a second message from the second virtual machine, wherein the message is associated with a second page of a second address space of the second virtual machine.

11. (Cancelled).

12. (Cancelled).

13. (Cancelled).

14. (Original) The computer system according to claim 8, wherein the virtual machine monitor is further adapted to convey identification information associated with the first and second virtual machines between the first and second virtual machines via the first and second virtual machine queues.

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15. (Currently Amended) A computer ~~readable~~ memory having instructions stored thereon that, when executed, cause a machine to:

place a message from a first virtual machine associated with a first virtual machine queue into a second virtual machine queue associated with a second virtual machine, wherein the message is associated with a page of a first address space of the first virtual machine;

map the page of the first address space to be associated with a second address space of the second virtual machine by updating a page table; and

determine whether a write instruction used to place the message in the second virtual machine queue involves an immediate virtual machine exit;

when the write instruction involves an immediate virtual machine exit, cause an immediate virtual machine exit associated with the first virtual machine such that a virtual machine monitor can process the message;

when the write instruction does not involve an immediate virtual machine exit, process the message in response to a natural virtual machine exit; and

cause the second virtual machine to process the message.

16. (Cancelled).

17. (Previously Presented) The computer ~~readable~~ memory according to claim 15 having instructions stored thereon that, when executed, cause a machine to:

dequeue the second virtual machine queue.

18. (Previously Presented) The computer ~~readable~~ memory according to claim 17, wherein dequeuing the second virtual machine queue includes storing an address associated with the page into a local variable associated with the second virtual machine.

19. (Cancelled).

20. (Cancelled).

21. (Cancelled).

22. (Cancelled).

Allowable Subject Matter

4. Claims **1, 3-4, 7-8, 10, 14-15 and 17-18** are allowed.

5. The following is an examiner's statement of reasons for allowance:

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The arts of record used as the basis for the previous rejection, Nelson et al (US 6961941), Fultheim al (U.S 20050039180) do not expressly teach or render obvious the invention as recited in independent **claims 1, 8, and 15**.

a. As to **claim 1**, the art of record does not expressly teach updating a page table, via a processor; determining whether a write instruction used to place the message in the second virtual machine queue involves an immediate virtual machine exit; when the write instruction involves an immediate virtual machine exit, causing an immediate virtual machine exit associated with the first virtual machine such that a virtual machine monitor can process the message, and, when the write instruction does not involve an immediate virtual machine exit, processing the message in response to a natural virtual machine exit; and causing the second virtual machine to process the message, as a whole. More over, the art of record does not provide a basis of evidence for asserting a motivation driven from the art or from one knowledgeable in the art, that one of ordinary skill in the art at the time the invention was made would have modified the method comprising placing a message associated with a page, mapping the page to combine the disclosed limitations as recited in the context of **Claim 1**.

b. As to **Claim 8**, being directed to a computing system having substantially the same limitations as **Claim 1**, this claim is allowable for the same reasoning as recited in **Claim 1** above.

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b. As to **Claim 15**, being directed to a product having substantially the same limitations as **Claim 1**, this claim is allowable for the same reasoning as recited in **Claim 1** above.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdou Karim Seye whose telephone number is 571-270-1062. The examiner can normally be reached on Monday - Friday 8:30 - 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sough Hyung can be reached on (571)272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/VAN H NGUYEN/
Primary Examiner, Art Unit 2194

/Abdou Karim Seye/
Examiner, Art Unit 2194